Metaltail Metallura eupogon, the Tyrian Metaltail Metallura tyrianthina, the Bronze-tailed Thornbill Chalcostigma heteropogon and the Rainbow-bearded Thornbill Chalcostigma herrani (Schuchmann pers. obs.).

References:

De Schauensee, R. M. 1970. A Guide to the Birds of South America. Livingston: Pennsylvania. Peters, J. L. 1945. Check-list of Birds of the World. Vol. V. Harvard Univ. Press: Cambridge. Zimmer, J. T. 1952. Studies of Peruvian birds: 62. Amer. Mus. Novitates 1595.

Address: K.-L. Schuchmann, Zoological Institute, University of Frankfurt, Siesmayerstr. 70, 6000 Frankfurt/M., West Germany.

Further notes on Lophophorus sclateri

by G. W. H. Davison

Received 9 June 1978

The eastern population of the pheasant *Lophophorus sclateri* has been described as a new subspecies (Davison 1974). Further examination of the small series of skins in the British Museum (Natural History) has shown more characters which appear to vary in an east-west fashion. The skins examined were from Pachakshiri, Lo La and Pome in southeast Tibet (5 males and 3 females) in the west of the species' range, from Yunnan and north Burma (5 males and 3 females) in the east, and 2 males from the intermediate locality of Mishmi Hills, Arunachal Pradesh.



Fig. 1. Variation with longitude in the width of the terminal white tail band of male *Lophophorus selateri*. The points show the mean tail band width, the vertical bars the range.

The description of L. s. orientalis emphasized the narrowness of the terminal white tail band in eastern males. Fig. 1 shows that the tail band width decreases sharply east of 97° E. It is not known whether this change corresponds with a change in habitat, but it does coincide with the eastern limit (Yin 1970) to the distribution of L. *impejanus*. Only western and Mishmi populations of L. sclateri overlap with this congener. In the region of overlap the 2 species are found in close proximity (Ludlow 1951). In all the members of this genus the tail pattern is conspicuous in display (see, for example, Schenkel 1956), and the greater width and conspicuousness of the white tail band in western L. sclateri may increase the distinctness of the 2 species' displays where the possibility of hybridization exists.

The iridescent green crown feathers of males are strongly recurved (Delacour 1951) and this gives the crown a woolly appearance. In 5 western males curvature of the crown feathers was very strong, from 100° to 180° or a full semicircle. The crown feathers of 2 Mishmi Hills males were similar. In 3 eastern males the crown feathers had a curvature of only up to 30°, in a fourth up to 40°, and in a fifth up to 60°. This variation was not seasonal, nor was it due to abrasion of the feathers which were of similar length in all males.

Four western males had the chin and throat entirely black, while the fifth, completing the moult from subadult to adult plumage, had a tiny centrally placed white bar on one or two feathers behind and below the gape on each side. Two Mishmi Hills males had the chin and throat entirely black. Of the 5 eastern males only one had the chin and throat entirely black, and 4 had at least a few white marks at the centre or sides of the chin. Four western males had entirely black thighs while the fifth had some pale buff vermiculations: 4 eastern males had entirely black thighs and the fifth some dark brown vermiculations. Both Mishmi Hills males had entirely black thighs.

Four fully adult western males had fulvous feather tips and some wholly fulvous feathers in the centre of the belly. The fifth, completing the moult into fully adult plumage, had the belly entirely black, as did the 2 Mishmi Hills males and all 5 eastern males. The black ventral surface in male *Lophophorus* is of significance in territorial displays between males (Harrison 1971): as with the white tail band, fulvous feathers in western *L. sclateri* may increase the distinctness of its displays from those of *L. impejanus* in the region of overlap.

Three western females had a slight fulvous tinge to the centre of the belly which was absent from the eastern females. Western females were all very similar, with dark underparts narrowly vermiculated and with dark rufous wing coverts. Eastern females were more variable, with generally paler plumage, and broader vermiculations on the underparts, rump and upper tail-coverts, and less richly coloured wing coverts.

Though both male and female *L. sclateri* vary in an east-west direction, the causative factors may not be the same for the 2 sexes. Western birds (in southeast Tibet) live in an area with much higher rainfall than do eastern ones (Vaurie 1972). This climatic difference may have influenced the plumage colour of the females.

Acknowledgements: I am indebted to the authorities of the British Museum (Natural History) for permission to examine the skins.

References:

Davison, G. W. H. 1974. Geographical variation in Lophophorus sclateri. Bull. Br. Orn. Cl. 94: 163-164.

- Delacour, J. 1951. Pheasants of the World. Country Life, London. Harrison, C. J. O. 1971. Frontal pattern and wing whirring in some pheasant species. Pheasant Trust Ann. Rep. 1970: 15-16.
- Ludlow, F. 1951. The birds of Kongbo and Pome, southeast Tibet. Ibis 93: 547-578.
- Schenkel, R. 1956. Zur Deutung der Balzleistungen einiger Phasianiden und Tetraoniden. Orn. Beobachter 53: 182-201. Vaurie, C. 1972. Tibet and its Birds. Witherby, London. Yin, U Tun. 1970. Record of the Himalayan Monal Lophophorus impejanus (Latham) in

Burma. J. Bombay Nat. Hist. Soc. 67: 328-330.

Address: G. W. H. Davison, Dept. of Wildlife and National Parks, Block K20, Jalan Duta, Kuala Lumpur, Malaysia.

The onset of prebasic body moult during the breeding season in some high-Arctic waders

by P. N. Ferns

Received 21 April 1978

Wading birds nesting in the Arctic have 4 alternative schedules of prebasic (postnuptial) moult. Some species undergo a relatively rapid moult at, or hear, the breeding grounds (Holmes 1966, Bengston 1975), while others embark on a more leisurely moult after migrating south (Soikkeli 1967, Holmes 1971, Nieboer 1972). Intermediate schedules also occur, in which prebasic moult is started near the breeding grounds, and is then either suspended or continued during the southerly migration (Holmes 1972, Pienkowski et al. 1976). During the 1974 Joint Biological Expedition to N.E. Greenland (25 June-31 August), 4 species of adult wading birds were captured during the late stages of incubation or after the hatching of their young. These birds were examined thoroughly for any traces of moult and information was also recorded on the refeathering of the incubation patches. In the absence of museum specimens showing moult of the remiges or retrices it had previously been assumed that all these species underwent the whole of the prebasic moult at, or en route to, the wintering quarters.

The species examined were Charadrius h. hiaticula, Arenaria i. interpres, Calidris alba and Calidris alpina arctica. They were captured between 25 June and 10 August in wire traps or small clap-nets, set over nests or young pulli, at 3 sites along the southwestern shores of Kong Oscars Fjord in N.E. Greenland (c 72°N). Most birds examined in detail were from Orsted Dal, the remainder coming from Mestersvig and Antarctics Havn. The extent of the moult in 4 regions of the body (coronal region of the capital tract, interscapular region of the dorsal tract, cervical and sternal regions of the ventral tract) was roughly quantified using a 5 point scale (all old=0, beginning of moult=10, middle of moult=20, end of moult=30, all new= 40). This differs from the more complex scoring system used by Holmes (1966), but involves the same 4 regions of the body, and gives broadly comparable results. In most cases the date of hatching of the eggs of each adult was known, but otherwise an estimate was made using the methods described by Green et al. (1977).